



THOMAS G. NEWMAN, Editor.



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Lessons from the Ivy.—Mr. Eugene Secor, of Forest City, Iowa, sends us the following, about the lessons to be learned from the "Ivy":

An humble thing is the Ivy-vine,
For it seeks the shadow of tree or wall;
In silence grows,
Nor envy shows
By vain attempt to out-do or out-shine
The rugged support that prevents its fall.

A truthful thing is the Ivy-vine,
For it never loosens its faith-like hold.
Mid storms it clings,
Till sunshine brings
The brighter hope, the joy divine,
And turns its dull leaves from brown to gold.

A loving thing is the Ivy-vine,
Clinging by tendrils as with hooks of steel,
Constant and true
Its whole life through,
Reaching its arms to grasp and entwine
All that its tender fingers can feel.

These lessons learn from the Ivy-vine:
The help that we need is more than we give;
And needing much
Of helpful touch
Should make us humble and benign.
And teach us in love and in faith to live.

The Editor is still unable to attend to business. His convalescence is very slow, and has been retarded by a relapse. It is to be hoped that he will be able to attend the Convention next week, but as yet it is quite uncertain.

Round Trip Tickets (that is, a single ticket to Chicago and return to the place of starting) can be purchased at any station, on any road leading to Chicago at one and one-fifth fare for the round trip, and will be good for six days. This is the arrangement, as we understand it, for the Fat Stock Show. These tickets can be bought at your railroad station. It may be well to ask your Station Agent about it in advance.

"How do You pronounce s-t-i-n-g-y?" asked Prof. Comstock. The smart bad boy nearest the foot of the class stood up and said, "It depends a great deal whether the word is applied to a man or a bee; one is sting-y, and the other is stin-gy." "Go to the head, young fellow."

Bee-Keeping in Norway.—The following is an editorial in the *Canadian Honey Producer* for November. When Mr. Young was here we were exceedingly busy, and did not have an opportunity to ask as many questions about bee-keeping in Norway as we desired, and as Mr. Young promised us to call on his return, we expected to do so then. We had a letter from him afterwards saying that he could not arrange matters to call again, and so we were deprived of much of his visit. The subjoined account will be read with interest:

We had a very pleasant and instructive conversation with Mr. Young, and of course made all possible inquiries about the state of bee keeping in Norway.

Bees can be kept very well as far north as Drontheim. In Norway, as here in Canada, there is no method by which the number of colonies can be ascertained, but the number of colonies kept are estimated at about 40,000; of these about 2,000 are kept in the movable-frame hive, the balance in straw skeps.

The government of Norway realize the importance of apiculture as an industry, and have sent Mr. Young, at their expense, to Canada and the United States, to promote the interests of the bee keepers.

Wintering is done very successfully in some of the old straw-skep hives. Many think the bees in the movable-frame hive do not winter as well, but such is not the case: on the contrary, the honey taken by means of the movable frame hive is mostly extracted. On account of so few frame hives, and but little comb foundation being used, the average yield per colony for the country is not great, but he thinks if properly conducted it would be 70 pounds to 100 pounds per colony.

The chief sources of honey are clover, basswood and heather. The clover is mostly *Alfalfa*; there is but little white.

The Norwegian Bee-Keepers' Association has some 1,500 members, has been in existence three years, the bee-journal 2½ years. Every member gets this journal free, and the journal is the property of the association, and under their control; and one having goods to advertise, can do so in the advertising columns. Fifty cents entitles a bee-keeper to membership and the paper, which is monthly. Any one not in the country pays \$1; this extra charge being made to cover the extra postage. Mr. Young also very kindly presented us with a copy of his book on bee-keeping. He may justly be called the father of advanced bee-keeping in Norway.

The Bee-Keepers' Union is urged to take an appeal from the court presided over by Judge Boardman in New York, in the case of Mr. Rich, mentioned on pages 659 and 675. Mr. George E. Hilton, President of the Michigan State Bee-Keepers' Association, writes as follows:

No, sir; the bees must not be compared with pig-stys or slaughter-pens, and the case must go to the higher courts. Shame on Judge Boardman! Bee-Keepers of America rally around the "Union." Give it your support, if you have not already done so. The Manager may draw on me at any time for \$5 in addition, if needed.

The Illustrated London News for Oct. 29, contains a colored portrait of Prince Bismarck, and pictures of Nizam of Hyderabad, two pages devoted to illustrations of the state of Ireland, another page of troops in Burmah, one of border sketches in Kelso, one of Bristol Cathedral, one of the death of Caesar, and a most attractive picture of a little girl and a dog, entitled, "Speak!" The reading matter is as interesting and complete as ever, while the price for all is only 10 cents. All newsdealers have it, and the New York office is in the Potter Building.

How Bees Make Cells.—In *Murray's Magazine* we find the following explanation of the geometrical forms which the cells of a honey-comb assume:

Recent measurements and observations have tended to dissipate the cell myth, and to show not only that the honey-comb is far from regular, but that such regularity as it has is due merely to mechanical conditions.

Mr. Frank Cheshire tells us in his recent volume, that careful measurements of the finest pieces of comb, built with every advantage for securing regularity, show that, so far from every cell being geometrically accurate, it is difficult to find a hexagon presenting errors of less than three or four degrees in its angles. On the other hand, there is a growing tendency to accept a modification of Buffon's explanation of the origin of cell structure. Buffon attributed the regularity of the cells to mutual pressure; in illustration whereof he packed a closed vessel with dried peas and filled up the interstices with water. The peas, which were thus caused to swell, assumed, under the pressure which resulted, the form of more or less accurate geometrical figures.

Perhaps a still better illustration of this principle of mutual inter-action is seen in soap bubbles. If a little soapy water is placed in the bottom of a tumbler and air be blown into the water through a tube, until the upper part of the glass is full of bubbles, the hexagonal form which these bubbles assume under mutual pressure, and the triangular pyramids at their bases, will be readily seen. Not that these geometrical figures are the same as those which the wax assumes, but they illustrate the principle. For, at the temperature of the hive, the wax, pared thin by the smooth-edged jaws of the workers, has all the plasticity of a fluid membrane. The bee has indeed to avoid the danger of paring away too far, and thus making a hole through the wall. But even here it may be aided by mechanical conditions.

If we take a thin piece of soap and pare away one face with the blade of a pocket-knife, we shall soon form a transparent patch where the soap is very thin. But if we continue to pare we do not cut through the soap at this point; but, for a time at least, we merely enlarge the area of the transparent patch. The thin film of soap yields at this point, and the stress of the blade falls on thicker and less-yielding edges. Some such mechanical yielding of the wax may guide the bee in its work.

The Result of there being no bees to fertilize the clover, is thus commented upon in *Science for All* (English) for November:

Bees are necessary to the fertilization of some kinds of clover. This fact the New Zealand government have discovered to their great dismay, for the Dutch clover in that colony will not produce sufficient seed, owing to the absence of the particular bee to fertilize it. Again, it has been found that twenty heads of Dutch clover yielded 2,290 seeds; but twenty other heads, protected from bees, yielded none. In like manner, a hundred heads of red clover produced 2,700 seeds; but the same number protected from the visits of insects were all sterile. Hence, it may be logically inferred that as no other insects visit the clover, were the bumble-bee to become extinct in England, the plant which is dependent upon it for existence, would either become extinct or at least comparatively rare.

It is a Mistake to visit the bees too often during the winter. It is apt to disturb them, they become restless, and sometimes discharge their feces, and by this means produce a stench that is enough to destroy them. It is better to have their winter quarters so constructed that their condition can be ascertained without disturbing them. —Exchange.

The Club List for 1888, of E. H. Cook, Andover, Conn., is on our desk.

QUERIES

With Replies thereto.

[It is quite useless to ask for answers to Queries in this Department in less time than one month. They have to wait their turn, be put in type, and sent in about a dozen at a time to each of those who answer them; get them returned, and then find space for them in the JOURNAL. If you are in a "hurry" for replies, do not ask for them to be inserted here.—ED.]

Packing Bees for Wintering.

Query 491.—1. My bees are in Langstroth hives with cottage roof and a 1½-inch hole in each end, and wire-cloth over the holes. Would a 5-inch box with cheese-cloth bottom filled with dry forest leaves be good packing for winter? 2. Would 1,000 pounds of dry prairie hay, stacked on each hive, leaving the hive-entrance open, be a good protection for winter?—Clarksville, Mo.

1. Yes. 2. Yes, if kept dry.—J. P. H. BROWN.

1. Yes. 2. Yes; less will do.—DADANT & SON.

1. Yes. 2. I think that 100 pounds of dry prairie hay would be sufficient in Missouri for each hive.—G. L. TINKER.

I should say yes to both questions. In Missouri I dare say this would be sufficient. Further north I should prefer a proper cellar.—A. J. COOK.

1. I should prefer dry, fine sawdust, to leaves. 2. I should much prefer a chaff hive, and I think it would be much cheaper.—G. M. DOOLITTLE.

1. Yes, it is very good as far as it goes. 2. I would be afraid to use it, from what I have seen. I would prefer about 4 inches of chaff or forest leaves, packed in a case all around the hives.—H. D. CUTTING.

I should prefer chaff or sawdust over the bees, yes, or even the dry hay, to leaves; the hay would be good protection, but, my! half a ton to a hive!! Hay must be cheaper in Missouri than in Michigan.—W. Z. HUTCHINSON.

1. Yes, if you had a good, tight board-cover over the 5-inch box. 2. Yes, if the hay was stacked on in such a way that it would turn water. I would prefer to have it cover the entrance, and all in such a way that I could remove it from the entrance at will.—JAMES HEDDON.

1. It answers well in this climate. 2. Try the experiment on a few hives and report for the benefit of your brethren. I feel quite sure that bees would suffer from dampness under a body of straw or hay in the way you propose; but I might be mistaken in this conclusion.—G. W. DEMAREE.

1. Yes, provided about 1 inch of space is left between the tops of the frames and the cheese-cloth. 2. I

have never found protection of the kind any benefit. It may do no harm; I do not think that it will do any good. The above is my opinion only, but based on results growing out of 17 years of successful wintering of bees on the summer stands.—J. E. POND.

Yes; to both questions, providing that the hay must be dry and placed in such a manner that it will let the rain run off without much soaking in. Dry leaves or sawdust would also do for a location in Missouri—but for the more northern localities a good cellar would be more reliable, one year with another.—THE EDITOR.

Fastenings for Square-Joint Hives.

Query 492.—When the square joint is used, in place of the beveled or rabbeted joint, for parts of hives whose edges fit flush, are fastenings of any sort required to keep the upper stories or cap in place? If so, what kind?—Goshen, N. Y.

No.—G. L. TINKER.

No.—H. D. CUTTING.

No; none whatever.—JAMES HEDDON.

I have never used any fastenings.—G. M. DOOLITTLE.

Not if there is any propolis about the hive.—DADANT & SON.

I have never used any fastenings; the bees soon attend to that.—W. Z. HUTCHINSON.

I do not use, nor want the square-joint in this climate (Georgia).—J. P. H. BROWN.

No. I have now used such for years with no trouble. Even my shade-boards, which, of course, cannot be glued by bees, need no weight to hold them down.—A. J. COOK.

I use a fastening on both square and beveled joints, consisting of a hook on the centre of each side, playing under the head of a screw driven nearly in, for the hook to catch on.—J. E. POND.

I use none, and none is ever needed for the upper story. On rare occasions, with very high winds, the covers are blown off, and if I knew of a very cheap and quickly-handled fastening, I might use one for the covers, but so far I have had none.—C. C. MILLER.

I have used the square-joint plan more or less for over 25 years, and I have never seen any need of a device to hold the surplus cases in place. The bees will glue the cracks made by adjusting one department of the hive on the other, no matter how it is done; and as soon as the edges of the cases are propolized, they will stick fast when put in position, and the bees will make the connection air and water tight as soon as possible. There is nothing like the square-joint plan for easy and rapid handling.—G. W. DEMAREE.

A rabbeted joint is preferable for many reasons; but where a square-

joint is used there is really no necessity for a fastening, except during high winds, and in a locality that is unprotected, and then usually only for the covers. When such fastenings are used a small hook turning on a screw, with another screw on which to hook, would be quite sufficient.—THE EDITOR.

Convention Notices.

Union Convention at Chicago.—The North American Bee-Keepers' Society and the Northwestern Bee-Keepers' Society will meet in joint convention at the Commercial Hotel, cor. Lake and Dearborn Streets, in Chicago, Ill., on Wednesday, Thursday and Friday, Nov. 15, 17 and 18, 1887. Arrangements have been made with the Hotel, for back room, one bed, two persons, \$1.75 per day, each; front room, \$2.00 per day each person. This date occurs during the second week of the Fat Stock Show, when excursion rates will be very low.

The following are the subjects for discussion, so far as has been determined upon:

Cost of the Production of Honey—J. H. Martin, Hartford, N. Y.
Controlling the Price of Honey—M. M. Baldrige, St. Charles, Ill.
Getting the Best Price for Honey—E. J. Oatman, Dundee, Ill.
Commission Men and the Honey Market—R. A. Burnett, Chicago, Ill.
Legislation for Bee-Keepers—Dr. C. C. Miller, Marengo, Ill.
Objects and Methods of a thorough Organization of the Bee-Keepers of America—Thomas G. Newman, Chicago, Ill.
Comb Foundation, its Manufacture and Use—C. P. Dadant, Hamilton, Ill.
Production of Extracted Honey for Table Use—T. F. Bingham, Abiona, Mich.
The Production of Comb Honey—W. Z. Hutchinson, Flint, Mich.
Production of Comb and Extracted Honey in the Same Apiary—J. A. Green, Dayton, Ill.
Out Apiaries—D. A. Jones, Beeton, Ont.
Foul Brood, How Shall we Treat It?—A. I. Root, Medina, Ohio.
Wintering Bees in the Northern States—R. L. Taylor, Lapeer, Mich.
Bee-Hives, and Fixtures—James Heddon, Dowagiac, Mich.
Bee-Keeping alone, or with Other Pursuits; if the latter, in connection with what?—Eugene Secor, Forest City, Iowa.
Legs of the Bee—Prof. A. J. Cook, Agricultural College, Mich.
What is the Best Name for Extracted Honey?—Thomas G. Newman, Chicago, Ill.
W. Z. HUTCHINSON, Sec.

The Western Bee-Keepers' Society will hold a meeting on Wednesday, Nov. 16, 1887, at the residence of Mr. Peter Otto, corner of Park and 25th Streets, Kansas City, Mo. Take the 18th Street horse-cars at 9th & Main Sts. for 18th & Brooklyn Sts., thence walk south to 25th St., and thence east one block to the house. We are sure of a cordial welcome from Mr. and Mrs. Otto, and expect a good meeting.
JAS. A. NELSON, Sec.

The Marshall County Bee-Keepers' Association will meet in the Court House at Marshalltown, Iowa, on Saturday, Nov. 19, 1887, at 10:30 a. m. and 1 p. m. Subjects for discussion: "Winter Care of an Apiary," and "How to Improve our Society." A cordial invitation is extended to every bee-keeper in this and adjoining counties.
J. W. SANDERS, Sec.

The Pike County Bee-Keepers' Society and the Illinois Central Bee-Keepers' Society will meet in joint convention at the New Pittsfield Hotel, in Pittsfield, Ill., on Friday and Saturday, Nov. 25 and 26, 1887. Reduced rates will be given at the Hotel. All are invited to attend.
W. T. F. PETTY, Pres.

The Susquehanna County Bee-Keepers' Association will meet at New Milford, Pa., on Jan. 7, 1888. Subjects for discussion: "The Best Way to Prevent Swarming," and "Is it Advisable to Italianize Colonies?" All bee-keepers are cordially invited.
H. M. SKELEY, Sec.

Correspondence.

This mark \odot indicates that the apiarist is located near the center of the state named; δ north of the center; φ south; \oplus east; \ominus west; and this \nearrow northeast; \nwarrow northwest; \searrow southeast; and \swarrow southwest of the center of the State mentioned.

For the American Bee Journal.

Basswood vs. Linden Honey.

DR. A. B. MASON.

In the last number of the AMERICAN BEE JOURNAL, I commenced a review of some of the statements made under the above heading by Mr. S. T. Pettit, as there referred to, and now I will review what he says on page 23, of the present volume of the AMERICAN BEE JOURNAL.

He starts out by saying that, "on page 805 of the AMERICAN BEE JOURNAL for 1886. . . . Dr. A. B. Mason complains that I take the ground in the *Canadian Bee Journal*, that Canadian basswood honey is superior to United States basswood honey." By referring to page 805 as above, it will be seen that I am not reported as making such a statement or complaint, and it seems that no one else is so reported. "A guilty conscience needs no accusing." He then says: "The report reads as follows: The Doctor thought it perfectly right to make Canadian articles distinctively Canadian, but it should not be done by casting unwarranted stigmas upon our productions. We should not try to elevate ourselves by pulling down others." It does not appear in the above report that I complained of any of Mr. Pettit's statements.

He then says: "Most certainly, I fully agree with the Doctor, that we should not cast 'unwarranted stigmas,' upon the productions of others, 'nor try to elevate ourselves by pulling down others.'"

If such an assertion as the following, which Mr. Pettit made on page 23, when untrue, is not casting "unwarranted stigmas," I should be pleased to know what it is doing! He says: "I confess that I am not a little surprised that any one, especially Dr. Mason, should disagree with me in this matter." It is a very easy matter for any one at all posted in regard to the quality, etc., of the basswood honey in Canada and the United States, to disagree with the assertion that Canadian basswood honey "is superior to American basswood honey," as stated by him.

He says: "I am fully persuaded that if the Doctor will take the trouble to get average samples of basswood honey from the different points in the United States, especially from near the southern limit at which this tree produces honey, and compare them with Canadian linden honey, that he will be the first to acknowledge the superiority of Canadian linden honey." If I should make such an

acknowledgement, I probably would be among "the first" to do so.

As stated in my previous article on this subject, I acted upon the above suggestion and wrote to well-known bee-keepers in the South, and sent to each one a sample of basswood honey, and asked to have it compared with the basswood or linden honey produced in their locality or State, and send me a statement as to its color and flavor when compared with white clover and other light-colored honey," and also to send a sample of their basswood or linden honey. I received answers to all my letters except those sent to Messrs. P. L. Viallon, of Louisiana, B. F. Carroll, of Texas, and Joseph Hatch, of New Mexico; and nearly all sent samples of honey, but not one had or could get basswood honey, except G. W. Demaree, of Kentucky, and John A. Buchanan, of West Virginia.

The sample of honey which I sent was gathered within four miles of Toledo, O., and was taken from the same that I exhibited a sample of at the last Michigan State Bee-Keepers' Convention, and of which Mr. Macpherson, of the *Canadian Bee Journal*, who was present, said: "It is as nice as Canadian basswood honey." Perhaps he ought to have said "Canadian linden," but he may have thought that we "sinners" (as an Englishman calls us in the *Canadian Bee Journal*) would not know what kind of honey he referred to. And Mr. T. F. Bingham, of Michigan, than whom I know of no one better qualified to judge in regard to quality, flavor, and aroma in honey, said: "It is good enough for any one."

G. W. Demaree, of Kentucky, says: "The sample you sent as basswood (linden) honey belongs to what we call light-colored honey. There are so few linden trees that have escaped the ax here, that I could not get you a pure sample of linden honey. We have always classed basswood (linden) honey with the light-colored honeys of this State. Locust, clovers, and linden give light-colored or white honey."

J. M. Jenkins, of Alabama, says: "I think the sample superb; the best basswood I ever saw."

E. M. Hayhurst, of Missouri, says: "The sample of basswood honey you sent me I should pronounce to be a first-class article, being well ripened. Our basswood has a slightly more greenish tinge."

John A. Buchanan, of West Virginia, says: "The basswood honey that we get here differs in no way from the sample you sent me. Our basswood honey is one or two shades lighter in color than white clover honey. It is also of good body and flavor."

A Miss Adams, living in Florida, whose father lives a few miles from me, recently called at my house, and she said: "There are basswood trees in some parts of the State, and the honey produced by them is just as clear and fine as the honey produced by them in the Northern States."

Jno. Y. Detwiler, also of Florida, writes: "Mr. Pettit is evidently

laboring under a mistake somewhere, if he classes basswood with buckwheat honey, as the latter is much inferior in color and flavor."

In none of the other States to which I have written, is linden honey produced, except in small quantities, and then while other honey-producing plants are in bloom, but it is always classed with light-colored honey.

I lived one summer at Cincinnati, and for several years 80 miles north of there, and was engaged in bee-keeping, and I certainly ought to know something about basswood honey near "the southern border."

Will such testimony as the above induce any one to "acknowledge the superiority of Canadian linden" (formerly basswood) "honey?" I "trow" not.

Mr. Pettit says: "Before taking this ground, I took a great deal of pains to understand the matter, and consequently I feel quite solid in the position I have taken." If the evidence which I have collected and given above in relation to the quality of United States basswood honey, does not enlighten such of our Canadian friends as have been led to believe that their basswood honey is better than that produced in the United States, nor affect Mr. Pettit's *solidity*, I hope some one will get up a small earthquake and shake "the whole batch of them," "Managing Committee" and all, out of that "Colonial" rut, so that the warming and genial influences of the gentle southern breezes will oblige them to loosen up that cloak of "I am better than thou," and lead them to exclaim, as I presume they feel, "No pent up Utica bounds our powers; the whole unbounded universe is ours."

Mr. Pettit's next statement, when untangled a little, completely "wipes out" all his assertions in regard to the superiority of Canadian honey. He says: "Without a question, basswood honey taken in the United States in our latitude (when the bees gather it under favorable circumstances, that is, not gathering at the same time inferior honey from other sources), the article is of the very best quality, and quite equal to Canadian honey." Now just leave out of the above sentence, what I have enclosed in the parenthesis, and Mr. Pettit has knocked the head out of the barrel he has been standing on while crowing, and is in about the same fix that "Sockery" was in trying to set the "plue hen." That enclosed in the parenthesis has nothing to do in the matter. Mr. Pettit has all along been talking about "basswood" honey, and now is "kinder mixing things," or rather several kinds of United States honey, and calling the conglomeration "basswood honey." Well! "did you ever?" I guess not. Perhaps that is the kind of basswood honey he has accused the Messrs. Muth with dealing in, but I do not believe that they deal in that way.

So far as my information goes, "inferior honey from other sources" is not generally gathered to any considerable extent while basswood honey

is being gathered in localities where much of the basswood honey is produced.

As I have shown in this article that the basswood and linden honey produced in the Southern States is as good in every way as that produced in the Northern States; and in my previous article, that the Northern States "produce just as fine basswood honey" as that produced in Canada, it seems to me that the "Managing Committee" were not posted in regard to the quality of the "fine, richly-flavored" United States basswood and linden honey, or were dishonestly trying to reap some, if not all, of the benefits of the successful efforts already put forth by the "Yankees" to make a market for United States honey in England; and I have no doubt but the misrepresentations made, have, in a measure, accomplished the desired results.

Here is another fallacy: "But it should be kept in mind that this strip or belt bears but a small proportion to that of the whole of the United States. In writing the article complained of, I referred to the United States as a whole." Yes; "the United States as a whole." Well, "the United States as a whole," as I have shown, does not produce basswood or linden honey. (Some parts produce basswood, some linden, and some neither.) As near as I have been able to learn, about latitude 35° is near "the distinctive southern limit" of the basswood and linden honey production, and on the Pacific Coast the southern limit is several degrees farther north.

Wm. Muth-Rasmussen, of California, says: "There is no basswood in this locality, and as far as I know, none in California."

E. A. Moore, of Nevada, writes: "In this State, nor on this coast, do I think you will find any basswood, and, of course, no basswood honey."

Now, about 42° is the southern limit of Canadian honey production, and 49° the northern limit of United States honey production, except what is produced in Alaska. (We "Yankees" are so big hearted and sympathetic, that we may some day be obliged to extend our northern limit several degrees beyond 49°, but I hope not, for we are happy the way it is.) This gives a "strip or belt" of 4° of basswood and linden honey-producing territory south of the Southern Canadian limit, and "a strip or belt" of 7° north of the Southern Canadian limit. So we see that there is nearly twice as wide a strip north of the Southern Canadian limit, as there is south of it, and I have yet to learn that that produced at the southern limit is inferior to that produced at the northern limit.

Here is an evidently truthful assertion, and although some other quotations I have made may have been as honestly given, I am sorry to be obliged to believe they are not as truthful as this: "Canadians would be very sorry indeed to have their fine, bright, sparkling linden honey classed with late, dark honey, and the price ruled down to that article." I do not doubt it at all, and I believe

the bee-keepers on "this side of the line" feel just the same about the "fine, bright, sparkling" basswood and linden honey produced in the United States, and will not submit to our Canadian friends (no, neighbors, for friends do not deliberately try to injure each other), classing it with "late, dark honey," without a most vigorous protest.

Auburndale, O.

Selected from a Sermon.

Forbidden Honey Ate by Jonathan.

REV. T. DEWITT TALMAGE, D. D.

"Forbidden Honey" was the subject of Dr. Talmage's recent sermon in the Brooklyn Tabernacle. His text was a portion of the forty-third verse of the fourteenth chapter of First Samuel: "I did but taste a little honey with the end of the rod that was in my hand, and lo! I must die." From it we re-produce the following points:

The honey-bee is a most ingenious architect, a Christopher Wren among insects, a geometer drawing hexagons and pentagons, a free-booter robbing the fields of pollen and aroma, a wondrous creature of God, whose biography, written by Huber and Swammerdam, is an enchantment for any lover of nature. Virgil celebrated the bee in his fable of Aristæus, and Moses and Samuel, and David, and Solomon, and Jeremiah, and Ezekiel and St. John used the delicacies of bee production as a Bible symbol.

A miracle of formation is the bee; five eyes, two tongues, the outer having a sheath of protection, hair on all sides of its tiny body to brush up the particles of flowers; its flight so straight that all the world knows of "the bee-line." The honey-comb is a palace such as no one but God could plan and the honey-bee construct; its cells sometimes a dormitory, sometimes a store-house, and sometimes a cemetery. These winged toilers first make cups of wax, and by their antennæ, which are to them hammer, chisel, square and plumb line, fashion them for use. Two and two, these workers shape the wall. If an accident happens they put up buttresses or extra beams to remedy the damage.

When about the year 1776 an insect, before unknown, in the night-time attacked the bee-hives all over Europe, and the men who owned them were in vain trying to plan something to keep out the invader that was the terror of the bees of the continent, it was found that everywhere the bees had arranged for their own protection, and built before their honey-combs an especial wall of wax, with port-holes through which the bees might go to and fro, but not large enough to admit the winged combatant, called the Sphinx Atropos.

Do you know that the swarming of the bees is divinely directed? The mother-bee follows the bees, and all alight on the branch of a tree, and cling to each other and hold on until the return of a committee of two or

three that have explored the region and found the hollow of a tree or rock not far off from a stream of water, and they have set up a new colony and ply their aromatic industries, and give themselves to the gathering of the saccharine edible. But who can tell the chemistry of that mixture of sweetness, part of it the very life of the bee, and part of it the life of the fields?

Plenty of this luscious product was hanging in the woods of Beth-aven during the time of Saul and Jonathan. Their army was in pursuit of an enemy that by God's command must be exterminated. The soldiery were positively forbidden to stop to eat anything until the work was done. If they disobeyed they were accused. Coming through the woods they found a place where the bees had been busy, a great honey store; honey gathered in the hollow of the trees until it had overflowed upon the ground in great profusion of sweetness. All the army obeyed orders and touched it not, save Jonathan, and he, not knowing the military order about abstinence, dipped the end of a stick he had in his hand into the liquid, and as (yellow and brown, and tempting) it glowed on the end of a stick, he put it to his mouth and ate the honey. Judgment fell upon him, and but for special intervention he would have been slain. In my text Jonathan announces his awful mistake: "I did but taste a little honey with the end of the rod that was in my hand, and, lo, I must die." Alas, what multitudes of people in all ages have been damaged by forbidden honey, by which I mean "temptation," delicious and attractive, but damaging and destructive.

Literature, fascinating but deathful, comes in this category. Where one good, honest, healthful book is read now, there are one hundred made up of rhetorical trash consumed with avidity.

The devil does not own all the honey. There is a wealth of good books coming forth from our publishing houses that leaves no excuse for the choice of that which is debauching to body, mind and soul. That young man or young woman can by the right literary and moral improvement of the spare ten minutes here or there in every day, rise head and shoulders in prosperity, and character and influence above the loungers who read nothing, or read that which be-dwarfs. See all the forests of good American literature dripping with honey. Why pick up the honey-combs that have in them the fiery bees which will sting you with an eternal poison while you taste it? One book may for you or me decide every thing for this world or the next.

It was a turning point with me, when in Wynkoop's book-store, Syracuse, one day I picked up a book called "The Beauties of Ruskin." It was only a book of extracts, but it was all pure honey, and I was not satisfied until I had purchased all his works, at that time expensive beyond an easy capacity to own them, and what a heaven I went through in

reading his "Seven Lamps of Architecture," and his "Stones of Venice," it is impossible for me to describe, except by saying that it gave me a rapture for good books, and an everlasting disgust for decrepit or immoral books, that will last me while my immortal soul lasts. All around the church and the world to-day there are "busy hives of intelligence" occupied by authors and authoresses, from whose pens dip a distillation which is the very nectar of Heaven, and why will you thrust your rod of inquisitiveness into the deathful saccharine or perdition?

The best honey is not like that which Jonathan took on the end of the rod and brought to his lip, but that which God puts on the banquet-table of Mercy, at which we are all invited to sit.

I was reading of a boy among the mountains of Switzerland ascending a dangerous place with his father and the guides. The boy stopped on the edge of the cliff and said: "There is a flower I mean to get." "Come away from there," said the father, "you will fall off." "No," said he, "I must get that beautiful flower," and the guides rushed toward him to pull him back, when they heard him say: "I almost have it," as he fell 2,000 feet. Birds of prey were seen a few days after, circling through the air and lowering gradually to the place where the corpse lay. Why seek flowers off the edge of a precipice, when you may walk knee-deep amid the full blooms of the very Paradise of God? When a man may sit at a King's banquet, why will he go down the steps and contend for the gristle and bones of a hound's kennel?

"Sweeter than honey and the honey-comb," says David, "is the truth of God." "With honey out of the rock would I have satisfied thee," says God to the recreant. Here is honey gathered from the blossoms of trees of life, and with a rod made out of the wood of the cross I dip it up for all your souls.

For the American Bee Journal.

Starting Right in Bee-Keeping, etc.

ED. S. EDEN.

"Purchase 1 or 2 colonies of black or hybrid bees, and then Italianize them afterwards," is the advice often given to those about starting an apiary. A person that would advise those intending to go into stock raising, to purchase an inferior grade of cattle, and then to improve the stock afterwards, would certainly be laughed at by every intelligent stock-raiser in the country. It is the same in bees. If we admit that the Italians are the best, all things considered, what advantage would there be in purchasing that which is inferior?

Some claim that the experience of Italianizing is worth considerable to the beginner. But it will be found that the beginner will have sufficient to perplex him without inviting still more difficulties. His fund of knowl-

edge in the business is small, consequently he should avoid those unnecessary things where there is a possibility of a failure. How many experienced bee-keepers are to-day annoyed at themselves for allowing an inferior strain to enter their yards? I fear there are a great many.

The beginner should practice vigilance against everything that is not of the best. It is generally admitted that the Italians are more prolific than the blacks; if this is true, and I think it is, is this not sufficient of itself to warrant their adoption at the first? I find that strength of colony is the main villa. to bee-keeping, and a goal that every bee-keeper should strive to attain.

CLIPPING THE QUEEN'S WING.

This is somewhat of a delicate job to those of little experience. It is usually advised to take the queen between the thumb and forefinger of the left hand, and then to perform the operation. But I have found in performing the operation in this way, that there is a risk of injuring the queen, or having her "balled" by the bees.

There is a plan practiced by some of the older bee-keepers here, which I think is a far better way to perform the operation. The queen is not taken off the frame at all, but the wing is clipped while moving up the frame, that is, from the bottom to the top. The frame is swung on a stand for the purpose, or held by a second person. With one hand take the queen by the wing, and cut off the amount desired. A very slender pair of scissors is preferred.

In clipping the wing while the queen is moving up the frame, one is not so apt to injure her abdomen, or dislodge her from the frame. The risk of "balling" is totally avoided, as the queen is not touched—only that portion of the wing that is cut off.

Eastwood, Ont.

[The advice to beginners to get black bees is pernicious. To clip the wing of the queen as you suggest is all right, if care is taken not to cut off a leg at the same time.—ED.]

Seed-Time and Harvest.

Rearing and Introducing Queens.

JAMES HEDDON.

Before giving a detailed outline of my preferred method of queen-rearing, one which I am now practicing with very satisfactory success, I wish to again call attention to the important truth, that in apiculture as well as other lines of culture, art, if properly applied, may excel nature. I believe we get better queens, and more of them, by the following process, than Nature gives us through her system of natural swarming. Once I could hardly be made to believe this, but experience has forced me to recognize the fact. I proceed to rear queens as follows:

First, I select the colony that I wish to rear from. Its bees must have proven themselves to be excellent honey-gatherers, good comb-builders, and well-behaved; adhering well to their combs when they are handled. Their queen must never be less than one year old, and such a queen, producing bees as described, is a "tested queen" with me. When I am ready to begin operations I select one or two new empty combs, and insert them near the centre of the brood-nest of the selected colony. On the fourth day after this insertion, I examine them, and almost without exception I find them containing eggs, and just hatching larvae. If not, I leave them until I find it so. I now remove them, filling their place with other combs.

I now look these two combs over, and wherever I find larvae just hatched, I break down the partitions between the cells containing them and those just below, by putting the point of a large blade into the chosen cell, about $\frac{1}{4}$ of an inch, and pressing downward as I withdraw it. I usually select 10 or 20 such cells on each comb, and then insert these two combs in a colony prepared as follows:

Select a colony of average strength, with bees of all ages, in average normal quantities, and deprive them of their queen and all their brood, both of which may be profitably placed in other colonies, as a rule. If these bees are German, or part German, they are just so much better as queen-rearers. If there is little or no honey-flow, contract the hive to five Langstroth combs, or one section of my new hive. If the former, put in the "fillers." Put in two combs of eggs in the centre, and a comb containing some honey and bee-bread on each side of them, and fill up with empty combs. If there is a honey-flow, fill the whole Langstroth hive with combs, or use a second section, or super, on my new hive. Close the hive, and queen-cell building will at once begin.

Twenty-four hours later, open the hive, and break down some more cells, where the eggs have hatched since you was last there. On the following day, repeat cell breaking, and from 40 to 75 large, perfect queen-cells will be built by this colony. The first of these cells may be expected to hatch 16 days after being placed with the cell-building colony. About two days before this, and after all the cells are capped, I remove these two combs to the lamp-nursery, in which I place them, keeping the temperature therein at 85° to 90° Fahr.

THE LAMP-NURSERY.

For the benefit of those who may never have seen the lamp-nursery, I will say that it consists of an open-top tin box, double all around, including the bottom, and the $\frac{1}{2}$ -inch space is filled with water. It has a rabbit at the top, and is of the interior size of the 10-frame Langstroth hive. I place it on an open top box, made to fit it, and place the lamp below it, adjusting the blaze until the proper temperature in the "nursery" is

reached, then insert the two combs, when it is covered with a board or carpet.

I use the nursery in my apiary cellar, and when the proper nursery temperature is once reached, I am thus enabled to hold it within one degree all the 24 hours, day after day and week after week. Many would think that the proper temperature to keep, would be that kept in a colony while rearing and hatching queens. Careful observation and experimenting has taught me that there is a great variation of the temperature in queen-rearing colonies, varying with different colonies, which should be shaded from the sun's rays.

Form these nuclei in the forenoon, keeping them confined until about sundown, or just as the other bees are ceasing to fly. Now drum on the hive, and smoke in the entrance a few minutes, after which remove the screen at the entrance, letting the confined bees have a flight, when they nearly all mark their new location, remaining at the same, if these, in addition to the other precautions, are used.

INTRODUCTION OF QUEENS.

My method of introducing these virgin queens, as fast as they hatch in the nursery, is as follows: Watch the nursery closely, so that the queens will not become old enough to kill each other, or bite open the unhatched cells and destroy the inmates. I examine for hatched queens about five times per day, going as early and late as I am up, so as to make the interval during the night, between examinations, as short as possible. I have not as yet had a queen destroyed.

When you find one or more hatched, place each in a wire-cloth cage, and carry her to one of the previously-formed nuclei; smoke the "guards," and removing the stopper from the cage, place the open end at the entrance of the nucleus, and let her run in. Just as she passes in, send a light puff of smoke after her, and leave the hive with the empty cage. I think that the less you arouse the colony, the surer you are of success. I advise the use of no more smoke than to make sure of subduing the "guards."

There has been some discussion regarding the best age of the nucleus at the time the young queen is run in. Some consider such introducing safe, only after the nuclei have their queen-cells capped, which will be from 3 to 6 days after they are formed; but I have always endeavored to get a young queen in sometime between 24 and 48 hours after formation. I have in many instances failed to have my queens on hand as soon as I intended, and have this season run queens into nuclei of all ages, from six hours to as many days, and I think not a single failure has beset my efforts. I have found about one in fifteen of my nuclei queenless, but as I seldom look after these matters previous to a week after introducing, and have in no case found queen-cells on the combs, I infer that these

queens were accepted, but were lost on their mating trip or otherwise, afterwards.

I wish to caution the less experienced against opening a hive "to see how the queen is coming on," or for any other purpose, if it can well be avoided, within 6 or 7 days after the introduction of any queen. I have received many letters like this: "I received the queen apparently all right. I introduced her safely, and found eggs the next day after liberating, but now I cannot find her, and queen-cells are started."

Bees seem to receive a new queen on probation for the first 3 or 4 days, and if during the time they are subjected to any disturbance, they suspect the stranger as the cause, and at once destroy her. I have had colonies kill their old mother, upon having their hives opened. This always took place in the spring.

If for any reason it becomes necessary to open a hive, soon after introducing a queen to its colony, by the use of the big volume of smoke, be sure that you subdue this colony most thoroughly.

In introducing fertile queens I have adopted the caging plan, and that of besmearing the new queen with honey, and dropping her into the hive at once, upon the removal of the old queen, and with both methods I have very seldom lost a queen.

Dowagiac, ? Mich.

For the American Bee Journal.

Fumigating Comb Honey.

DR. C. C. MILLER.

I have been much interested in looking over the replies given on page 740 of the AMERICAN BEE JOURNAL for 1896. Generally, the replies to queries show great uniformity of opinion, but in this case there is variance enough to make lively reading. The amount of surplus used for 1,000 cubic feet of space varies from "a heaping table-spoonful" to "2 pounds;" that is, if my own reply reads as I meant it. I should say I never wrote "1,000 square feet of comb," but "1,000 cubic feet of room;" but if I say anything of that kind it would be just like Bro. Newman to quietly enclose and mail to me the original copy written word for word as printed.

In any case, the amount given by me is so much more than others, that I have just been out to measure my smoke-room to see how my answer compares with my actual practice. It measures about 600 cubic feet. I have many times fumigated honey in it, each time using just one pound of sulphur. The room is generally filled with honey piled up to the ceiling. A few sections will show the green color, but on the whole, I think it is not far from right.

But if I am right, how about the others? Dr. Brown thinks a heaping table-spoonful sufficient for 1,000 cubic feet of space. I regard Dr. Brown as a man not likely to make reckless statements, and in his case I

presume the amount mentioned is sufficient. He stipulates that "the room should be perfectly tight." Mine is not, and this would make quite a difference. He probably never allows time enough to elapse so that the worms may attain any size, and when taken at that stage, when nothing but a bit of fine powder can be seen, I presume a heaping table-spoonful will be more effective than 2 pounds when the worms have reached full size.

Then again, the Doctor may have in mind that the space will be almost entirely filled with honey, and this may make a great difference. In 1,000 feet of space, if 900 feet are occupied with honey there will be only one-ninth the empty space that there will be if 100 feet of space are occupied with honey. With the same amount of sulphur burned in each, will not the fumes be nine times as strong in 100 feet of empty space, as in 900?

Still I would rather have plenty of sulphur, for if a small quantity is used, and an occasional worm is left alive (and I have found an occasional one alive after my heavy smoking), it is worse than to have a very few sections green. After worms have grown to full size, it is almost impossible to kill them with any amount of sulphur.

As to the manner of burning, I think coals and heated irons will be discarded by any one who fairly tries the easy and simple way of lighting the sulphur directly with a match. I use the powdered sulphur. Possibly the roll-brimstone would not light so easily.

My experience does not lead to the same conclusions as Dr. Tinker has reached. I think that I should not care to hold up sections to the light to see if pollen was in them, for if the pollen is covered with honey and sealed over (and I think it is never sealed without first being covered with honey), I should no more fear worms than if no pollen were present. But the occasional open cell of pollen that mars the surface of an otherwise beautiful section, is pretty sure, under favorable circumstances, to mark the birth-place of a worm. It is possible that a worm may develop in the pollen under the honey, but I have never observed it.

However that may be, I am sure that I have seen worms start where there was no pollen. If any one should object that a microscope might discover traces of pollen where I could with the naked eye see none, I reply that I am not talking as a hypothetical scientist, but as a plain beekeeper to bee-keepers, and as such, if I can see no pollen, I feel justified in making the assertion in ordinary language, that there is none there. Indeed, I suppose Dr. Tinker uses the language in the same way, as he speaks of holding sections up to the sunlight to see if pollen is in them. I have frequently seen worms originating on the edges of the walls of cells not filled with honey, next to the wood. I have even seen them on foundation in sections not yet drawn out by the bees. Whether these will grow to full size without pollen, I am

not prepared to say, but I have seen them sufficiently developed to injure the appearance of sections.

I have read and re-read the statement of Mr. Heddon with considerable surprise. I do not want to say it loud enough for him to hear me, but I have a slight suspicion that in this matter James is just a little out. Locality may make a difference—time of year. I know, does make a difference—but I suspect that in my locality, if my colonies were all re-queened with the best queens in the world, and a lot of sections taken off late in the season, especially if some of them had pollen or combs a little dark, and those sections kept in a place favorable for the development of worms, the worms would be forthcoming. Still, I have been many times mistaken, and this may only be another instance.

Marengo, 3 Ills.

[After keeping the "copy" for each number, tied up and labeled, for 5 or 6 months, it accumulates so fast that we throw it into the waste-basket. As the answer Dr. Miller refers to was printed a year ago, the copy is destroyed, and we cannot refer to it now.—ED.]

Eastern Farmer.

Winter Preparation of Bees.

J. E. POND.

Statistics as shown by the various reports given in from year to year, indicate that more losses arise from lack of winter protection than from all others, except perhaps in some districts where foul brood has gained a foothold.

One of the chief causes of winter loss, in our judgment, consists in not beginning early enough in the fall to get the brood-chambers ready for winter's severity. The desire to get as large a surplus crop as possible induces many to leave all winter preparation till fall honey season is over. This we deem to be wholly wrong; it breaks up the brood-nest just after the bees have made their own preparations, and in many cases puts the bees into winter quarters with both unripened and unsealed stores. The rule should be, we believe, to cause no disturbance whatever to the brood-chamber after the middle of August; about that time we make our final examination, see that all is right, and then allow the bees to fit up to suit themselves.

In early fall, however, and just before the advent of cold weather, we contract our bees' quarters to as many combs only as they can well cover, spacing them a little wider apart than is allowed during the breeding and honey gathering season, and see also that they have a sufficient amount of stores to last them through.

Five full frames of comb the Langstroth size we deem amply sufficient, and the fact that we have been invariably successful in wintering is

proof that we are nearly correct in our views; our losses from all winter causes during the last 20 years not being 5 per cent. During that time we have used chaff hives, double walled hives, hives variously protected with packing, etc., and single-walled hives, and in wintering on summer stands (which is our custom), we have not found any great difference, and are led to the conclusion that more depends upon other things than upon the quality or thickness of our hives.

What is required, we think, is plenty of bees, in good hives proportioned to the size of the colonies, plenty of stores, well ripened and sealed up, and where the bees can get at them at any time, with just sufficient ventilation to prevent excessive moisture. By this means the bees are kept quiet, and thus retain their vitality, and do not kill themselves in the attempt to preserve life, by extra exertions to overcome severe cold, or to break their clusters in the endeavor to find scattered stores.

We do not propose to theorize on this matter, but simply to state our belief drawn from our own experience, leaving it for others to theorize or not, as they choose. It is enough for us to know that we do not lose our bees, and that we adopt the measures above indicated in getting them ready for the winter campaign. If others meet with success, with different treatment, all right; but if they have not been successful heretofore, we advise them to try our method, and see how it works.

North Attleboro, Mass.

For the American Bee Journal.

Results of the Season of 1887.

H. J. ROGERS.

I commenced the season of 1887 with 48 colonies, nearly all of which were strong enough on May 1 to easily repel all robber bees. On May 10 apple blossoms began to appear, and I never saw so many blossoms on trees before, so it seemed to me. But for some reason, probably the cold wind, the bees did nothing except to build up, which they did to some purpose.

In about ten days after apple blossoms disappeared, raspberry opened, and about all the colonies commenced storing honey in sections. This continued for just ten days, and white clover came, but it yielded no honey at all.

Up to this time I had counted on a big yield of honey, but I found that I was too premature. A drouth set in. Bees commenced to swarm, and although I did not allow but one swarm to issue, yet I could not get another pound of honey from those which had sent out swarms, except by cutting out queen-cells and hiving a "big" swarm into the hive when one had issued. This plan worked well, and I am indebted to one of the AMERICAN BEE JOURNAL's correspondents for it.

The dry weather continued, and my bees soon tired of sending out swarms, and commenced to slaughter the

drones. But about July 10, basswood bloomed, and this gave them a new impetus. For just seven days they fairly "went crazy" over honey gathering, and the drones lived on, except those that had already paid the debt of nature.

When buckwheat came, two weeks later, I took 700 pounds of comb honey, besides filling up the brood-chambers with from 2 to 3 frames for winter. (I had from 5 to 8 frames before, from raspberry and basswood.) Now I have a showing of about one ton of comb honey, and plenty for the bees for winter stores. I have my bees packed on the summer stands, and if my "luck" does not desert me, I will have nearly all of the 70 colonies I now have, when "the spring-time comes again."

Stannard's Cor., N. Y., Oct. 31, 1887.

Prairie Farmer.

Sweet and Alsike Clover.

MRS. L. HARRISON.

Bee-keepers have for many years been experimenting with, and seeking after plants which will pay to raise for honey alone, but have never found one that was satisfactory. The clovers are the most popular honey-plants, and, excepting the sweet clover (*Melilotus alba*), are favorites with the farmers.

The presence of sweet clover is sufficient proof that there are bee-keepers near by. It is classed among pernicious weeds in Illinois, but this is a mistake, as it dies root and branch the second year, and does not spread. This is proven by the fact, that where roads and lanes are so full of it, and its growth is so rank that it is difficult for a team to drive through, yet not one stalk will be seen growing in the adjoining fields. During muddy weather the seeds are carried on wagon wheels for long distances, and seem to germinate more readily in this way. I have an idea that the seed heats easily, for several times I have gathered it as it ripened and put it into a paper sack, and sowed it in waste places, and not a plant appeared. But when I cut off the stalks and scattered them, it grew and held its own ever afterwards.

When speaking of this plant, I always think of the old minister who had a surly wife, and would not allow any of the fraternity to visit him. When one of his brethren was condoling him he said, "Don't pity me too much, brother; my wife has some good streaks." This plant also has its good points, growing and thriving in poor gravelly soils, and enriching them by its deep, long roots and branches, and preventing gullies by holding the soil; and lastly by producing the choicest nectar during drouths and periods of scarcity. It has value as a forage plant in early spring, as it grows before other clovers, and is relished at this season by stock, and especially by fowls. It is sometimes cut and stored with hay on account of its fragrance, as it will perfume the whole mow. Gather the stalks now,

and cause the waste places to rejoice with the happy hum of industrious bees next year.

White and red clover have an established reputation, and need no words of praise. Alsike or Swedish clover (*Trifolium hybridum*) is a stronger grower than the white, and has a white blossom tinged with pink. It forms excellent pasture and hay, and some of the Indiana apiarists exhaust our language in its praise; it thrives with them on a damp, clay soil. I have tried to grow it in dry, sandy soil, and always failed, but have since learned that it is sown in Sweden in late winter upon the snow, and I never tried sowing it at this season.

Peoria, © Ills.

For the American Bee Journal.

Educating People about Bee-Keeping.

G. H. ASHBY.

I send you the dues for the Union. I feel ashamed that I have not joined the Bee-Keepers' Union before, when I have noted the great good that has been done through it. I live in the heart of the village, but I am fortunate in having good people around me, who recognize my bees as their friends. This county is one of the three greatest fruit counties in the State. This year we will ship about 100,000 barrels of apples, and we raise other fruits in like proportion. There are a great many bees in the county, but mostly only a few colonies in a place. I never heard of any trouble about bees here. By making an exhibit at the County Fair each year, and in other ways, I am educating the fogies in the direction of modern bee-culture; so that I hope soon to "show up" a little on the interesting honey question.

The dealers in town will now buy nothing but one-pound sections, unless at very much reduced rates, which is doing more good in driving people to use improved fixtures, than anything else. I find that by making poor goods unsalable, I am tickling their pockets, which is a very tender spot with most people. I also, in advertising, offer instructions free. I often have to show a person a queen, after forty or more years of bee-keeping. The hardest thing I have to do is to get them to subscribe for one of the papers on bee-keeping.

Albion, © N. Y., Oct. 31, 1887.

Exchange.

Beginning in Bee-Keeping.

L. C. ROOT.

Those interested in our pursuit should spend some portion of their leisure during the winter months in acquiring information in regard to the most approved methods in the apiary. It is desirable that those who wish to commence bee-keeping should become familiar, not only with the necessary, but the best fixtures,

in order to begin intelligently, and to continue in the right direction.

Many beginners do not attach sufficient importance to this matter of preparation by reading, and often find it necessary to make many changes, thereby incurring much needless expense. Others become discouraged and drop the business in a year or two, when, if circumstances had been more favorable, they would have attained, with application, reasonable success. It is a mistake for beginners to hope to reach at once, results equal to those who have had years of experience. Those who indulge in this idea, will be sure to meet with disappointment. It is a common mistake with modern writers upon bee-keeping to offer too glowing inducements to the inexperienced.

In my opinion there are, at the present day, two distinct classes, taking extreme ground in relation to our interests, both of which I conceive to be in error. One class endeavors to induce all, without regard to fitness, to engage in bee-keeping, assuring them, by delusive statements, that it is the highway to prosperity. The other, on the other hand, says that the business should only be conducted by specialists, who devote themselves exclusively to it. I am often told that I am helping to instruct the public to produce such quantities of honey, that those of us, who make it a special business, cannot dispose of our own honey at figures that will make it remunerative. I admit that there may be some truth in this, if we are to be controlled by selfish aims alone, but I cannot believe that this is the proper view to take of it.

The facts are these: All over this beautiful land, blossoms are secreting honey which is passing away and being wasted, at the very doors of those who might, with a proper understanding of the means, secure it as a wholesome article of food. Again, there are those in nearly every community, who are keeping a few colonies of bees in box hives, and in the old way securing little or no profit. This is the class I desire more particularly to influence. One of the earliest lessons I received was, that whatever it paid to do at all, it paid to do well. If it pays at all to keep bees in the manner alluded to, it certainly must pay much better to keep them after the most improved methods of the present.

It is not true that all can keep bees successfully, but only such should undertake it as are by nature adapted to it, and will give it the same thorough continued application that is required to make any branch of business profitable. If one desires to understand how to commence rightly, and to become familiar with what is required to conduct bee-keeping satisfactorily, secure some practical work on the subject which does not represent either class of extremists just mentioned; begin moderately, and grow into the business as experience increases.

Stamford, 9 Conn.

Local Convention Directory.

1887. Time and place of Meeting.

- Nov. 16.—Western, at Kansas City, Mo.
J. A. Nelson, Sec., Muncie, Kan.
- Nov. 18-19.—North American, at Chicago, Ill.
W. Z. Hutchinson, Sec., Flint, Mich.
- Nov. 19.—Marshall County, at Marshalltown, Iowa.
J. W. Sanders, Sec., LeGrand, Iowa.
- Nov. 25, 26.—Pike Co. & Ills. Cent., at Pittsfield, Ill.
W. T. F. Petty, Pres., Pittsfield, Ill.
- Dec. 7-9.—Michigan State, at East Saginaw, Mich.
H. D. Cutting, Sec., Clinton, Mich.
- 1888.
- Jan. 7.—Susquehanna County, at New Milford, Pa.
H. M. Seeley, Sec., Harford, Pa.
- Jan. 20.—Haldimand, at Cayuga, Ontario.
E. C. Campbell, Sec., Cayuga, Ont.

In order to have this table complete, Secretaries are requested to forward full particulars of time and place of future meetings.—ED.

SELECTIONS FROM OUR LETTER BOX

Too Wet for the Bees.—A. W. Smith, Parksville, © N. Y., on Oct. 28, 1887, writes:

My report for 1887 is as follows: Spring count, 83 colonies; extracted honey, 2,325 pounds; and comb honey, 370 pounds. They increased to 100 colonies, and I doubled them down to 75 colonies, and fed them about 500 pounds of old honey to get them in condition for winter. It has been too wet here for the bees to get much honey.

Northwest Arkansas as a Bee-Country.—Wm. Camm, Murrayville, © Ills., on Oct. 29, 1887, writes:

In my late travels I found northwest Arkansas a poor bee-country, and the Indian country is over-rated sadly. Northwest Arkansas has had a wild flora fair for bees, but while that is all gone, it has not been replaced, and I fear it will not be. I met drouth there as here, and found natural opportunities closed by speculation against labor there quite as much as here. By an appeal to those qualities and faculties that lift men above and distinguish them from brutes, by reason and moral suasion, we must seek to change social conditions so as to change interests in land to its improvement, rather than ownership, and then we can find some way of retaining more moisture in our soils.

Good Supply of Winter Stores.—J. W. Sanders, Le Grand, © Iowa, on Oct. 27, 1887, writes:

We are all, or nearly so, without any surplus honey this fall. I think that my own bees have a good supply of winter stores, for there was a fine quantity of buckwheat in this vicinity that helped out the fall flowers. The frost staying off so late was another help. I find that some have feared where they had no buckwheat at hand. The drouth in Iowa was a severe one, and our white clover fields

that have been so magnificent in the past, were one brown mass this season—just enough to keep up a healthy brood-rearing, but no surplus. Then we had about two weeks of basswood bloom, and during this the bees did very well, and stored enough to live on during the hot, dry weather of July and August. During the latter part of August and September, all went well, so that now we hope to have a supply of the natural sweets for the bees.

Very Dry Season.—J. S. Willard, Bedford, ♀ Iowa, on Nov. 1, 1887, says:

The weather has been very dry here almost the entire season, and water for stock was very scarce. The bee-business has also been almost a failure. I am feeding my bees for winter for the first since 1871. They have no honey stores, and enough this time. It looks as though I would have to enter some other business in connection with bee-keeping to "make ends meet" in such seasons as this, but I hardly know what to try, as I am neither stout nor well educated.

Cycloned Honey.—C. W. McKown, Gilson, ♂ Ills., writes:

Let me suggest a new name for extracted honey. The name I propose carries with it meaning as well as euphony. Much argument might be reasonably advanced in support of this name, but I will submit it without argument, except to say that it would carry a meaning to the brain of the dumbest groceryman that handles honey. It is "cycloned" honey! This conveys the idea of "whirling around very forcibly."

Bees did Poorly, etc.—T. J. Loveland, Tripoli, ♂ Iowa, on Oct. 28, 1887, says:

Bees have done very poorly this year. I put 125 colonies into the cellar last fall, and lost during the spring 78 colonies. I sold one colony, and commenced the season with 46 colonies. My increase was 6 swarms. I got 800 pounds of comb honey. My bees have enough to winter on, excepting 1 or 2 colonies. It was the poorest year since I have kept bees.

My Experience with Bees, etc.—J. T. Tweedell, Bowdon, ♂ Ga., on Oct. 20, 1887, writes:

I commenced bee-keeping last spring with 2 colonies of hybrids, had 7 swarms, doubled one colony back, and I now have 8 colonies in fair condition. I got about 20 pounds of comb honey. I do not think that 10 per cent. of the bees in this part of the country swarmed, and we have had very little surplus honey. I know one man that had 13 colonies last spring, and now has only 8, but had no swarms, and lost 5 from starvation. He has box-hives. No swarms and no honey is the general com-

plaint. The AMERICAN BEE JOURNAL has been a great help to me. I could not do without it and keep bees.

I send a plant to be named. I think that it comes up in the spring from the root. It grows from 3 to 5 feet high, and blooms profusely. It is now in full bloom, and my bees have been working on it for 2 or 3 weeks. Some plants have white and others various shades of purple blossoms.

[They belong to the numerous family of asters—all excellent for honey.—Ed.]

Uniting Colonies before Winter.—D. M. Stoler, Saxton, ♀ Pa., on Oct. 29, 1887, writes:

Would it add to the strength of my bees to give to them bees from the past summer's swarms, that have not sufficient stores to winter on? There are several such colonies near me that I can have the bees from, as the parties will let them die. If it would be advantageous, how is it best to unite them? My bees are reasonably strong, with a fair supply of stores, except one, which I find now is short of stores. What is best to do with it?

[Yes, if your hives contain enough food for the united colonies, and it is not too cold. Here it is now nice Indian summer weather. To unite: Sprinkle both colonies with sweetened water scented with the essence of peppermint; smoke well, and put them all together in one hive. If you do not wish to select the poorest queen and kill it, leave that matter to the bees to settle. Feed the colony that is short of stores, or unite it with one that has plenty.—Ed.]

Hiving Swarms, etc.—Elias Richmond, Lyons, ♂ N. Y., on Oct. 31, 1887, writes:

Two years ago last spring I had 14 colonies of bees, and now, with the increase, I have 32 colonies. The amount of surplus honey this year is small; however, I think the bees have plenty in the brood-chamber for winter stores.

In my experience I have noticed that swarms which alight high are not apt to stay after being hived. On one occasion I got a swarm the third time from a high limb, and by sprinkling them I succeeded in getting the queen, clipped her wing, and hived them again; but the next day they "moved out" again, and alighted on another high limb, but left the queen with wing clipped lingering about the hive. I thought they might return to the hive with the queen, but they left the premises. One said: "Perhaps they did not like the hive." But I put the next swarm in it, which stayed and did well. Another said: "Perhaps they had two queens."

Last spring, during the first warm weather, the bees came out from

every hive, and seemed to enjoy it. Cold weather set in again for 2 or 3 weeks; another warm spell appeared, and they came out lively again, except from one hive, which, upon examination, I found the bees had deserted and left plenty of honey.

I have noticed that my bees have usually come out the best in the spring which was preceded by a steady cold winter. This gives me some faith in the theory of hibernation. My bees have built combs in all sorts of shape in the frames. Since taking the AMERICAN BEE JOURNAL I see how this can be prevented.

Condition of Bees in Nebraska.—R. R. Ryan, President of the Nebraska State Bee-Keepers' Association, Bradshaw, ♂ Nebr., on Oct. 27, 1887, writes:

The weather is quite cool, freezing ice 1 inch thick last night. My bees have plenty to live on during the winter, but brood-rearing is over. I shall put my bees in the cellar in about one week. The cellar is cemented, and keeps dry, but in this country I never heard of damp cellars. Bees generally are in good condition for winter. My second year's success in bee-keeping is as follows: In the spring I commenced with 28 colonies, increased them to 58, one became queenless and I doubled it up; sold 2 colonies, have 55 colonies now, and took 1,000 pounds of extracted honey, and 300 pounds of comb honey. I have sold some at 15 to 22 cents per pound, and guarantee it pure and good, or money returned.

Bee-Keeping in Western Texas.—Jas. D. Stephenson, Boerne, ♂ Texas, on Oct. 26, 1887, says:

We are having a hard time of it here in Western Texas, as we have had no crops to speak of in two years. Bees have done poorly. The Italians have built up strong for the winter, besides storing about 30 pounds of surplus fall honey. The blacks suffered during the drouth, and have not recovered yet. I would not take \$50 for what I have learned from the AMERICAN BEE JOURNAL. I am considered "the bee-man" of this county.

When Renewing your subscription please try to get your neighbor who keeps bees to join with you in taking the BEE JOURNAL. It is now so cheap that no one can afford to do without it. We will present a **Binder** for the BEE JOURNAL to any one sending us three subscriptions—with \$3.00—direct to this office. It will pay any one to devote a few hours, to get subscribers.

Colored Posters for putting up over honey exhibits at Fairs are quite attractive, as well as useful. We have prepared some for the BEE JOURNAL, and will send two or more free of cost to any one who will use them, and try to get up a club.



Issued every Wednesday by
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 923 & 925 WEST MADISON ST., CHICAGO ILL.
 At One Dollar a Year.

ALFRED H. NEWMAN,
 BUSINESS MANAGER.

Special Notices.

To Correspondents.—It would save us much trouble, if all would be particular to give their P. O. address and name, when writing to this office. We receive letters (some inclosing money) that have no name; many others having no Post-Office, County or State. Also, if you live near one post-office and get your mail at another, be sure to give the address we have on our list.

As there is Another firm in Chicago by the name of "Newman & Son," we wish our correspondents would write "American Bee Journal" on the envelope when writing to this office. Several letters of ours have already gone to the other firm (a commission house), causing vexatious delay and trouble.

We will Present Webster's Dictionary (pocket edition), and send it by mail, postpaid, for two subscribers with \$2. It is always useful to have a dictionary at hand to decide as to the spelling of words, and to determine their meaning.

Sample Copies of the BEE JOURNAL will be sent FREE upon application. Any one intending to get up a club can have sample copies sent to the persons they desire to interview, by sending the names to this office or we will send them all to the agent.

Money Orders can now be obtained at the Post Offices at reduced rates. Five dollars and under costs now only 5 cents. As these are absolutely safe, it will pay to get them instead of the Postal Notes which are payable to any one who presents them, and are in no way safe.

Simmins' Non-Swarming System.—We have received another shipment of these books, and have made such favorable terms, that we will now club them with the BEE JOURNAL for one year, both postpaid, for \$1.25. We can supply all orders by return mail. The subscription to the BEE JOURNAL can be for next year, this year, or may begin anew at any time.

California Excursions.

At frequent dates of each month, the Burlington Route, C. B. & Q. R. R., runs excursions to San Francisco, Los Angeles and San Diego, at greatly reduced rates of fare. By the "Burlington" one can have a choice of routes to California, as its lines from Chicago, Peoria and St. Louis extend to Denver, Council Bluffs, Omaha, Saint Joseph, Atchison and Kansas City. Should one desire to make the return trip via Portland, Oreg., they can continue their journey south or east from St. Paul or Minneapolis, over the Burlington Route, to Chicago, Peoria or St. Louis. For California excursion dates, rates, tickets or further information, apply to ticket agents of the C. B. & Q. or connecting railroads, or address Paul Morton, General Passenger and Ticket Agent, Chicago, Ills. 43A4t

A Valuable Book Given Away.—We have made arrangements by which we can supply the AMERICAN BEE JOURNAL and the New York World—both weekly—for one year, for \$2.10, and present the subscriber with one of these books, bound in Leatherette Free Calf:

HISTORY OF THE UNITED STATES—from 432 to 1887.—320 pages.—Price, \$2.00.

HISTORY OF ENGLAND—from before the Christian era to 1887.—Price, \$2.00.

EVERYBODY'S BOOK—a treasury of useful knowledge.—410 pages.—Price, \$2.00.

The extra 10 cents is for postage on the book, which must be selected by the subscriber at the time of sending the subscription, and cannot be afterwards exchanged.

The book selected will be mailed in a cardboard case, at the subscriber's risk; if lost it cannot be replaced. Be sure to write your name, post-office, county and State plainly, and then the risk of loss is very small. The subscriptions can commence at any time.

Remember, the amount is \$2.10 for both papers, and the Book and postage.

Sweet Clover, (*Mellilotus alba*), furnishes the most reliable crop of honey from July until frost, and at the same time it furnishes the most delicious honey, light in color, and thick in body. It may be sown in waste places, fence corners, or on the roadside, at any time of the year.

Sow two years running, on the same land, and the honey crop will be without intermission. Money invested in Sweet Clover Seed will prove a good investment. The Seed may be obtained at this office at the following prices: \$6.00 per bushel (60 lbs.); \$1.75 per peck, or 20 cents per pound.

We have a large quantity of CHOICE WHITE EXTRACTED HONEY, in kegs holding from 200 lbs. to 225 lbs. each, which we will deliver on board the cars at 10 cents per lb. Orders solicited.

Preserve your Papers for reference. If you have no BINDER we will mail you one for 60 cents, or you can have one FREE if you will send us 3 new yearly subscriptions for the BEE JOURNAL.

Enameled Cloth for covering frames, price per yard, 45 inches wide, 20 cents; if a whole piece of 12 yards is taken, \$2.25; 10 pieces, \$20.00; if ordered by mail, send 15 cents per yard extra for postage.

OUR CLUBBING LIST.

We supply the **American Bee Journal** one year, and any of the following publications, at the prices quoted in the last column of figures. The first column gives the regular price of both. All postage prepaid.

	Price of both.	Club
The American Bee Journal	1 00..	
and Gleanings in Bee-Culture	2 00..	1 75
Bee-Keepers' Magazine	1 25..	1 20
Bee-Keepers' Guide	1 50..	1 40
The Apiculturist	2 00..	1 75
Canadian Bee Journal	2 00..	1 75
Rays of Light	1 50..	1 35
The 7 above-named papers	5 25..	4 50
and Cook's Manual	2 25..	2 00
Bees and Honey (Newman)	2 00..	1 75
Binder for Am. Bee Journal	1 00..	1 50
Dzierzon's Bee-Book (cloth)	3 00..	2 00
Root's A B C of Bee-Culture	2 25..	2 10
Farmer's Account Book	4 00..	3 30
Western World Guide	1 50..	1 30
Heddon's book, "Success,"	1 50..	1 40
A Year Among the Bees	1 75..	1 50
Convention Hand-Book	1 50..	1 30
Weekly Inter-Ocean	2 00..	1 75

One yearly subscription for the AMERICAN BEE JOURNAL must be ordered with each paper or book, in order to take advantage of the prices named in the last column.

Home Market for Honey.

To create Honey Markets in every village, town and city, wide-awake honey producers should get the Leaflets "Why Eat Honey" (only 50 cents per 100), or else the pamphlets on "Honey as Food and Medicine," and scatter them plentifully, and the result will be a DEMAND for all of their crops at remunerative prices. "Honey as Food and Medicine" are sold at the following prices:

Single copy, 5 cts.; per doz., 40 cts.; per hundred, \$2.50. Five hundred will be sent postpaid for \$10.00; or 1,000 for \$15.00. On orders of 100 or more, we will print, if desired, on the cover-page, "Presented by," etc. (giving the name and address of the beekeeper who scatters them).

To give away a copy of "Honey as Food and Medicine" to every one who buys a package of honey, will sell lots of it.

Don't do it!—Notwithstanding our many cautions, some persons still persists in sending silver in letters. In nine cases out of ten it will break the envelope and be either lost or stolen. Cases come to light nearly every day, showing that silver sent in letters stops somewhere on the way. It is an invitation to the thief—a regular temptation! If you wish to safely send money, get a Post-Office Money Order, Express Order, or Bank Draft on Chicago or New York. When money is sent in either of the above-named ways, it is at our risk. In any other manner, it is at the risk of the sender.

Should any Subscriber receive this paper any longer than it is desired, or is willing to pay for it, please send us a postal card asking to have it stopped. Be sure to write your name and address plainly. LOOK AT YOUR WRAPPER LABEL.

We have a few Sets of the BEE JOURNAL for the present year, and can fill orders until further notice, for all the numbers from the first of last January. New subscribers desiring these back numbers, will please to state it plainly, or they will not be sent.

Honey and Beeswax Market.

CHICAGO.

HONEY.—We quote: White clover 1-lb. sections 22c; 2-lbs., 18c; dark 1-lb. 17c; 2-lbs. 15c. Receipts continue light, and prices tend higher.

S. T. FISH & CO., 189 S. Water St.

CHICAGO.

HONEY.—We quote: White comb in 1-lb. sections or about, brings 18c; some fancy shipments are held at 22c; 2-lb. sections, 16c. Dark honey is slow sale. Extracted, 7c.

H. A. BURNETT, 161 South Water St.

DETROIT.

HONEY.—Best white in 1-lb. sections sells as high as 19c. A few lots are held at 20c. Demand increases as fruit becomes scarce.

M. H. HUNT, Bell Branch, Mich.

CLEVELAND.

HONEY.—Best white 1-lb. sell readily at 19c to 20c; 2-lb. sections, 17c. White clover extracted, 8c.

A. C. KENDEL, 115 Ontario St.

BOSTON.

HONEY.—New crop, 1-lb. sections, 18c to 20c; 2-lb. sections, 17c. Extracted, 6c. Demand fair.

BLAKE & RIPLEY, 57 Chatham Street.

SAN FRANCISCO.

HONEY.—We quote: Extracted, white liquid, 6c; amber colored and candied, 5c. White to extra white comb, 15c to 17c; and amber, 10c to 12c. Supplies and demand are small.

SCHUCHT & LEMCKE, 123-124 Davis St.

SAN FRANCISCO.

HONEY.—We quote: White to extra white comb 16c to 18c; amber, 10c to 14c. Extracted, light amber, 6c; dark, 5c. White to extra white comb, 15c to 17c; and amber, 10c to 12c. Supplies and demand are small.

O. B. SMITH & CO., 423 Front St.

NEW YORK.

HONEY.—We quote: Fancy white in 1-lb. sections, 17c to 19c; the same in 2-lbs., 15c to 16c; buckwheat 1-lb., 12c to 14c; 2-lbs., 10c to 12c. Off grades 10c per lb. less. White extracted, 8c; buckwheat, 5c to 6c; Southern, per gallon, 6c to 7c. Market seems to be unsettled.

MCCOUL & HILDRETH BROS., 28 & 30 W. Broadway, near Duane St.

KANSAS CITY.

HONEY.—We quote new crop: Choice white 2-lb. sections, 16c to 17c; dark 2-lbs., 12c to 14c; choice white 1-lb., 18c to 20c; dark 1-lb., 14c to 16c. White extracted, 8c to 10c; dark, 5c to 7c. Demand good, but light supply.

HAMBLIN & BEARSS, 514 Walnut St.

KANSAS CITY.

HONEY.—We quote: Choice white 1-lb., 20c; dark, 15c to 16c; choice white 2-lb., 18c; dark, 14c. Extracted, 8c to 10c. California—white 1-lb., 18c; dark, 15c; white 2-lb., 16c to 18c; dark, 14c to 16c. White extracted, 9c; amber, 8c. Supply fair.

CLEMONS, CLOON & CO., cor 4th & Walnut

ST. LOUIS.

HONEY.—Choice comb, 15c to 18c; latter price for choice white clover in good condition. Strained, in barrels, 4c to 5c. Extra fancy, of bright color and in No. 1 packages, 4-cent advance on above. Extracted, in bbls., 5c to 6c; in cans, 6c to 7c. Short crop indicates further advance in prices.

D. G. TUTT & CO., Commercial St.

CINCINNATI.

HONEY.—We quote extracted at 3c to 7c. per lb. Demand is good for clover honey in square glass jars from the jobbing trade. No new comb honey in this market, but we would think that choice white would bring 18c to 20c. In a jobbing way.

MUTH & SON, Freeman & Central Av.

NEW YORK.

HONEY.—We quote: Fancy white 1-lb. sections, paper boxes, 18c to 19c; fancy 1-lb., glassed or unglazed, 17c to 18c; fancy 2-pounds, glassed, 15c to 16c. Lower grades 14c to 15c. Buckwheat 1-lb., paper boxes, 11c to 12c; same glassed or unglazed, 10c to 11c; 2-lb. glassed, 10c. Extracted, white, 8c to 10c; dark, 6c to 7c. Demand good, market firm.

F. G. STROHMMEYER & CO., 122 Water St

PHILADELPHIA.

HONEY.—Fancy white 1-lb., 19c to 20c; fair 1-lb., 18c; fancy 1 1/2-lb., 18c. No sale yet for dark. Extracted, California, 8c; Cuba strained, 6c to 7c. Demand good.

ARTHUR TODD, 2122 N. Front St.

MILWAUKEE.

HONEY.—Choice white 1-lb., 19c to 20c; 2-lbs., 18c to 19c; fancy white might bring 21c to 22c. White extracted in barrels or half-barrels, 8c to 9c; in kegs, 8c to 9c; in cans or pails, 9c to 10c; dark in kegs and barrels, 6c to 7c. Demand good.

A. V. BISHOP, 142 W. Water St.

We are sometimes asked who our authorized agents are. Every subscriber is such an agent; we have no others, and we greatly desire that each one would at least send in the name of one new subscriber with his own renewal for 1888. The next few weeks is the time to do this. We hope every subscriber will do his or her best to double our list of subscribers.

Yucca Brushes are employed for removing bees from the combs. They are a soft, vegetable fiber, and do not irritate the bees. We can supply them at 5 cents each, or 50 cents a dozen; if sent by mail, add 1 cent each for postage.

Red Labels for one-pound pails of honey, size 3 1/4 inches.—We have now gotten up a lot of these Labels, and can supply them at the following prices: 100 for \$1.00; 250 for \$1.50; 500 for \$2.00; 1,000 for \$3.00; all with name and address of apiarist printed on them—by mail, postpaid.

We pay 20 cents per pound, delivered here, for good Yellow Beeswax. To avoid mistakes, the shipper's name should always be on each package.

Advertisements.

COMB HONEY WANTED.

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Flint, Genesee Co., Mich.,

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Price of the Book, 25 cts. Stamps taken—either U. S. or Canadian. 35A1t

Dadant's Foundation Factory, wholesale and retail. See advertisement in another column

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We have made arrangements with the inventor by which we shall make and sell the Heddon Reversible Hive, both at wholesale and retail; nailed and also in the flat.

The brood-chamber is in two sections; also the surplus arrangement, which may be interchanged or inverted at will. The cover, bottom-board, and top and bottom of each sectional case has one-half of a regular bee-space, so that the surplus cases with the sections, may be placed between the two brood-chambers, or the latter may be transposed or inverted—in fact, all parts of this hive are perfectly interchangeable. The brood-frames will ALL be bored for wires.

A SAMPLE HIVE includes the bottom-board and stand; a slatted honey-board, and cover; two 6-inch brood-chambers, each containing 8 frames; two surplus arrangements, each containing 28 one-pound sections, one with wide frames and separators, and the other without separators. This latter chamber can be interchanged with the other stories, but cannot be reversed. It is NAILED AND PAINTED, and ready for immediate use. Price, \$4.00, complete.

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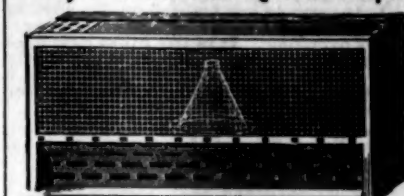
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Price, by Express, 50 cts.; by mail, 65 cts.; 12 in the flat, and one nailed (12 in all), \$3.50; 50, in the flat, \$12.00. Address,

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WE can furnish regular Wooden Water-Pails—well painted on the outside, and with 3 iron hoops and a tight-fitting wood cover, at 25c. per dozen. They will hold 25 lbs. of honey, and when empty, can be utilized for use as an ordinary household pail.

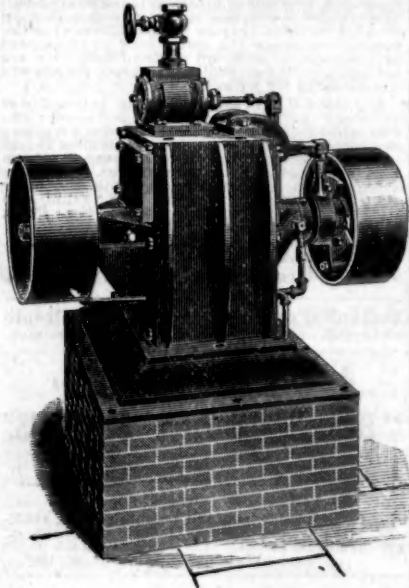
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WONDERFUL DEVELOPMENT
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GREAT ECONOMY OF FUEL



No high-priced Engineers are required. Any person can manage it. No angular push, or dead center. Friction almost entirely overcome. It is the most compact Engine ever invented. It is perfectly governed. We also warrant it to attain a higher speed and develop more power with less fuel than any Engine in use.

Manufactured at the Cedar Rapids High Speed Engine Works, of Cedar Rapids, Iowa.

Send for a Circular. Address,
HENRY RICKEL, Pres.,
44Atf CEDAR RAPIDS, IOWA.

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EXCELSIOR HONEY EXTRACTORS



In answer to frequent inquiries for Extractors carrying 3 and 4 Langstroth frames, we have concluded to adopt these two new sizes. The 3 frame basket is in a can of the same size and style as the 2 frame. The 4 frame basket is in the larger can, with the cone or metal standard for the basket to revolve upon, leaving room underneath the basket for 75 or 80 lbs. of honey. It will be complete, with covers, and in every way identical, except in size, with the \$16.00 Extractor, 13x20, which is intended for any size of frame.

Excepting with the \$8.00 Extractors, all the different styles have strainers over the canal leading to the honey gate, and movable sides in the Comb Baskets. The \$8.00 and \$10.00 Extractors have no covers.

For 2 American frames, 13x13 inches.....	\$8 00
For 2 Langstroth " 10x18 "	8 00
For 3 " " 10x18 "	10 00
For 4 " " 10x18 "	14 00
For 2 frames of any size, 13x20 "	12 00
For 3 " " 13x20 "	12 00
For 4 " " 13x20 "	18 00

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\$1. Why Not

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